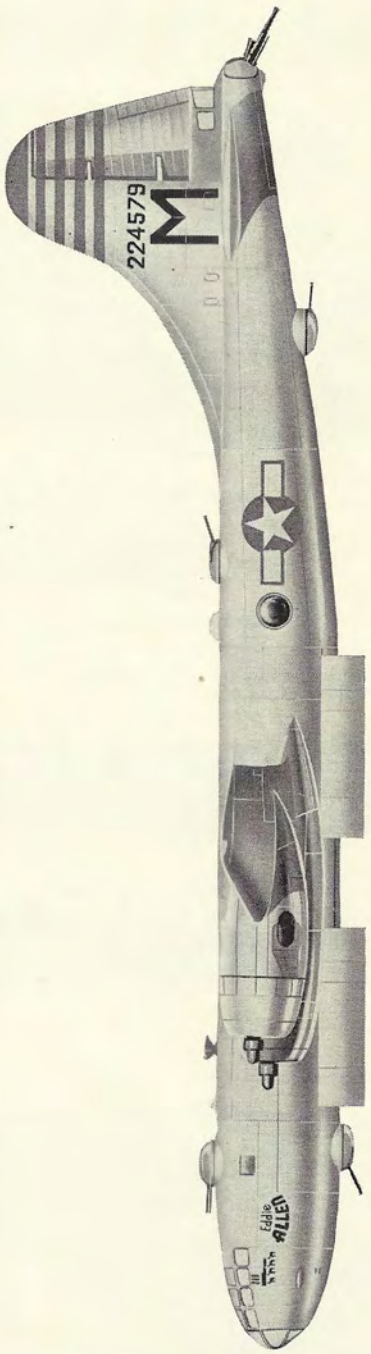
PROFILE PUBLICATIONS

The Boeing B-29 Superfortress

NUMBER 101

TWO SHILLINGS



B-29 42-24544 "Long Distance" of 875th Bombardment Squadron, 498th Bombardment Group, 73rd Bombardment Wing.

B-29 "Supine Sue, The International Figure", first aircraft of 500th B.G., 73rd B.Wg. to arrive on Saipan Island, 31st October 1944.

B-29 44-27299 "Next Objective" of 393rd B.S., 509th Composite Group, 313th B.Wg.

B-29 44-27300 "Strange Cargo" of 393rd B.S., 509th Comp.G., 313th B.Wg.

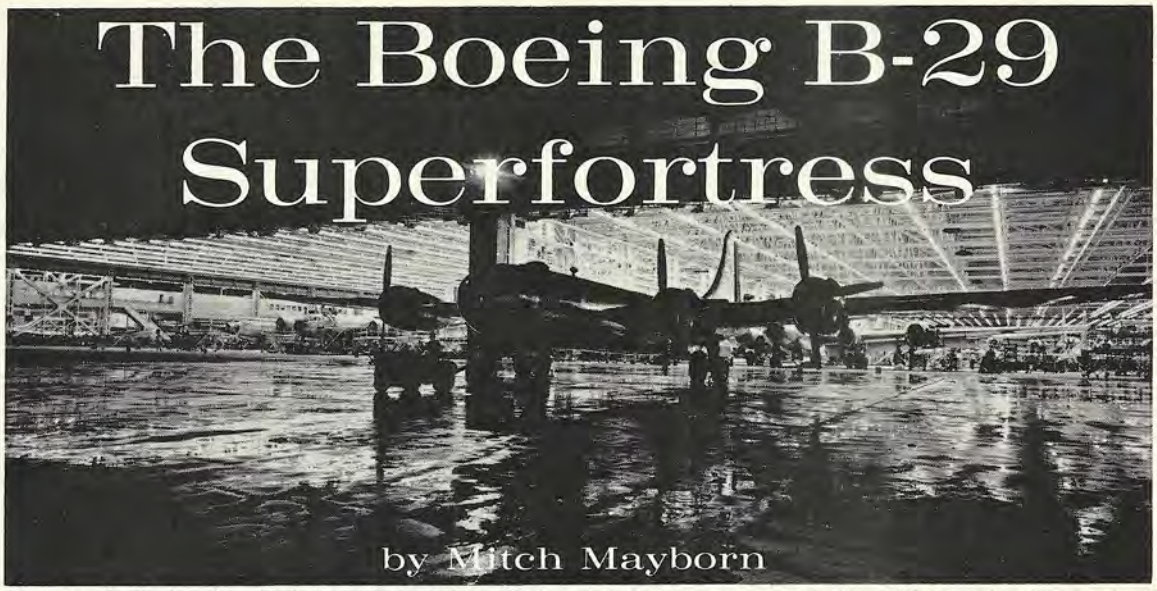
B-29 44-70135 "Antoinette" of 875th B.S., 498th B.G., 73rd B.Wg. Original "Antoinette", 42-24751 lost in action 24th May 1945.

B-29 44-27301 "Straight Flush" of 393rd B.S., 509th Comp.G, 313th B.Wg.

B-29 44-27302 "Top Secret" of 393rd B.S., 509th Comp.G., 313th B.Wg.

Available space does not allow detail views of all nose emblems. Two representative noses are shown here; left, "Hore-zontal Dream" of 444th B.G., with tally of bombing missions: right, 44-69772 "Battlin Betty III" flown by Lt.Col. G. G. Robinson, D.F.C., of 875th B.S., 498th B.G.

The Boeing B-29 Superfortress



by Mitch Mayborn

Unusual and effective view showing round-the-clock production on a Superfortress assembly line. (Unless otherwise stated, all photographs appearing in this Profile are by courtesy of the Boeing Co.).

The Boeing B-29 Superfortress was designed and built for a single primary purpose in World War II—to bomb the Japanese Empire.

The result was an airplane to which many superlatives were applied, not the least example of which was the fact that on 6th August 1945, the B-29 *Enola Gay* dropped the first atomic weapon ever used in combat. Three days later on 9th August the B-29 *Bockscar* dropped the second atomic bomb, thus quickly bringing about the end of World War II.

It is important to note in a single short paragraph that these two bombs, named "Little Boy" and "Fat Boy" were the only atomic weapons ever used in combat. And it was two B-29's that dropped the bombs.

The B-29 Superfortress almost had to be a "super" airplane, for was it not the younger (if bigger and faster) brother of the famed B-17 ? More importantly the B-29 was rushed into production, and the grand strategy of the Pacific War was founded on the prime goal of securing bases for the airplane that would bomb Japan into submission, a long-shot gamble that paid off handsomely.

B-29 production became the largest single aircraft programme of the War, entailing not only a multi-plant production complex and thousands of sub-contractors, but also modification centres where last minute changes and refinements could be made without slowing production. These modification centres were partly the result of the fact that the B-29 was the first bombardment aircraft that had been ordered "off the drawing boards". Indeed, by the time the first XB-29 flew on 21st September 1942, there were over 1,664 aircraft on order. New plants were built or "arranged for" (the Navy turned over their own plant built by Boeing at Renton, Washington especially to produce the long range XPBB-1 "Sea Ranger") and subcontractors lined up.

Other superlatives include the facts that the B-29 Superfortress was the largest airplane ordered into such widespread production, was equipped with the most powerful engines devised at that time (the Wright R-3350 of 2,200 h.p. each) and was the first production airplane to have fully pressurised crew compartments and to use a central fire control system.

A total of 3,970 B-29's were built, but some 5,092 additional aircraft were cancelled shortly after VJ day. Of those built, 2,766 were by Boeing, 668 by Bell and 536 by Martin. Peak production was reached in the spring of 1945 when eight B-29's per day were rolling off the production lines. At the end of the war there were 2,132 B-29's in A.A.F. inventory and many of these were cocooned for future use.

GETTING READY FOR WAR

On 29th January 1940, the War Department, at the request of General H. H. (Hap) Arnold issued a specification (Data R-40B) to Boeing, Consolidated, Douglas and Lockheed calling for a bomber with a speed of 400 m.p.h. and the ability to deliver a 2,000 lb. bomb load at a range of 5,333 miles. Contracts for preliminary engineering data for the Boeing XB-29, Lockheed XB-30, Douglas XB-31 and Consolidated XB-32 were let on 27th June 1940, in the order of preference. Lockheed and Douglas subsequently withdrew from the competition. Funds for the

A three-dimensional "exploded view" showing the major components of the B-29.

B-29A-5BN in flight with bomb-bay doors open; aircraft 42-93844.

construction of two XB-29 and two XB-32 prototypes were appropriated on 24th August 1940. A third XB-29 and a static test airframe were ordered on 14th December 1940.

In April of 1941, the Air Force inspected the XB-29 mock-up and construction of the prototype was started. The B-29 became a top priority aircraft and by January 1942 (before the first flight in September) more than 500 were on order. The first flight was on 21st September 1942 when Boeing Test Pilot Edward Allen flew the XB-29 (41-002). There were 1,664 aircraft on order at this time. Delivered unarmed, it was powered by four Wright R-3350-13 engines with three-bladed propellors. On 28th December 1942, the second XB-29 (41-003) flew. This second XB-29 developed an engine fire while making a landing approach on 18th February and crashed, killing eleven of Boeing's B-29 team, including test pilot Edward Allen. The inflight engine fires were to plague the B-29 throughout its life.

The first flight of the third XB-29 (41-18335) and of the first YB-29 (41-36954) were both in June 1943. The YB-29, built by Boeing at Wichita, Kansas, was equipped with R-3350-21 engines and left the production line on 15th April, flying for the first time on 26th June.

On 1st June 1943—the 58th (Very Heavy) Bombardment Wing was activated at Marietta, Georgia in advance of delivery of the YB-29's, seven of which were delivered during July.

During this test period the third XB-29 crashed. Changes in the design as a result of flight tests included introduction of four-bladed Hamilton-Standard propellors and a switch from the periscopically-sighted Sperry gun turret to a new system of General Electric turrets sighted from remote astrodomes.

B-29BW (44-87775) in flight.

During the autumn of 1943, deliveries of the B-29-BW (Boeing, Wichita) were commenced to combat training units. These were followed in early 1944 by B-29-BA's (Bell, Marietta) and B-29-MO's (Martin, Omaha). These aircraft were variously equipped with R-3350-23, -23A or -41 engines and were rated to a normal gross weight of 33,500 lb. and a maximum gross of 138,000 lb. Armament was two ·50 cal. guns in each of four fuselage turrets, each gun having 1,000 rounds. Two more ·50 cal. guns were in the tail and early aircraft had a 20 mm. M-2 Type B cannon. The B-29A-BN (Boeing, Renton) was equipped with R-3350-57 or -59 engines and because of a new centre section had an increase of 12 inches in overall wingspan. Other changes on the Renton built B-29's included a slightly reduced fuel capacity and a four gun top turret.

The famous "Battle of Kansas" was waged by A.A.F. personnel aided by Boeing men from Wichita and Seattle, against time, weather, and the B-29. The goal was to get the B-29 ready for war.

The four-gun upper forward turret of the B-29A-30BN is just visible in this photograph of 42-94106.

One of the fourteen YB-29's constructed for service tests, a Wichita-built machine.

THE SUPERFORTRESS IN COMBAT

The First B-29 to go to war landed on 24th April 1944 at Kwanghan, China. More than 700,000 Chinese labourers had built five fields for the B-29 in India and four in China. The first B-29 mission took off from an Indian base on 5th June 1944 to bomb Bangkok, Thailand. Ten days later, 50 B-29's from the newly formed 20th Air Force bombed Yawata, Japan, the first air attack since General Doolittle's B-25 raid in April 1942. Seven B-29's were lost on this first raid, but only one directly attributable to enemy action.

In June 1944, when the B-29's moved to the five bases in the Marianas, the raids on Japan began to have some real meaning. The five bases, (two on Guam, two on Tinian and one on Saipan) were each equipped to handle 180 aircraft. Located 1,500 miles from Japan, they meant a round trip of 3,000 miles. The first Marianas-based strike took place against Tokyo on 24th November when 111 B-29's, commanded by Brigadier General Emmett O'Donnell flying in *Dauntless Dotty*, piloted by Robert K. Morgan (*formerly pilot of the "Memphis Belle", see Profile No. 77*) struck the Musashino engine factory. Only 24 of the 111 B-29's attacked the target and results were not encouraging. As was often the case in raids against Japan, jet-stream winds at bombing altitudes seriously reduced accuracy.

Boeing's Wichita, Kansas production line during World War II.

THE TURNING POINT: LE MAY's GREAT DECISION

On 20th January 1945, Major General Curtis LeMay took charge of the XXI Bomber Command, with its headquarters on Guam. He had left Europe in 1944 to assume command of the India-based B-29 operations, two months after they had started. Now he had left India to assume command of B-29 operations in the Marianas two months after the first Tokyo raid.

In China, the main trouble had been distance, supply and to some extent weather. Due to treacherous, unpredictable weather, not one of the 11 priority targets was destroyed in the first 2,000 sorties. A third of the total effort had been spent on Musashino (Target 357) and it was only four per cent. destroyed. There had been only one opportunity for visual bombing during General LeMay's first six weeks at Guam. Against this background of unfavourable conditions and poor results, it was decided to depart radically from the traditional doctrine of strategic bombardment. Just how radically was not known to most of the B-29 crews until the memorable morning of 9th March when in all briefing rooms throughout the Marianas an announcement was made. It was followed by a sudden, shocked silence as the crews began to realise what they had just heard:

A series of maximum effort night incendiary attacks were to be made on major Japanese industrial cities.

Bombing altitudes would be between 5,000 and 8,000 feet.

No armament or ammunition would be carried and the size of the crew would be reduced.

Aircraft would attack individually.

Tokyo, bristling with defences, would be the first target.

The three-bladed propellers of the XB-29 are distinguishable here

The two most famous B-29's of W.W.II; "Enola Gay" and "Bockscar", the executioners of Hiroshima and Nagasaki. The only two machines ever to employ a nuclear device in combat, they both served with the 393rd Bomb. Sqdn. of the 509th Comp.Grp., although the tail symbol deliberately suggests that the "atomic squadron" was a sub-unit of the 6th Bomb. Grp.
(Photos: P. M. Bowers Collection)

In making this decision, General LeMay was not motivated by the desire to get better performance from his crews and aircraft nor were these operations intended as terror raids against Japanese civilians. The Japanese economy depended heavily on home industries carried on in cities close to major factory areas. By destroying these feeder industries, the flow of vital parts could be curtailed and production disorganised. A general conflagration in a city like Tokyo or Nagoya might have the further advantage of spreading to some of the priority targets, making it unnecessary to knock them out by separate attacks.

One main advantage in lowering the altitude to between 5,000 and 10,000 feet was the increased bomb load. A single B-29 flying in formation at high altitude could carry only 35 per cent. of the possible bomb load of a B-29 attacking individually at the lower altitude. Individual attacks required no assembly over the base at the mission's start or reassembly *en route* to the target. Aircraft could go directly from the base to the target and return, thus saving gas and allowing a greater bomb load. Better weather would be encountered at the lower altitudes and the strong, fuel-consuming winds of high altitudes would be avoided. The weight of extra crew members, armament and ammunition would go into bombs. Carrying the largest loads yet carried to Japan, the B-29 would fly in with from six to eight tons of the new M-69 fire bomb, composed of an incendiary cluster containing a jelly-gasolene compound.

Japanese night fighter forces were known to be weak, but flak losses were expected to be substantial. By making a night-time attack, it was hoped to minimise these losses, since enemy radar gun-laying devices were thought to be comparatively inefficient, and heavy A.A. guns would thus have to depend on searchlights for effective fire control.
The best time for take-off was around dusk, so that the planes could benefit by at least some daylight for the getaway. This brought them to the target just before dawn, and most important, enabled them to make the homeward flight by daylight, thus avoiding night ditchings of battle-damaged aircraft.

These missions had to be completed in time for the B-29s to co-ordinate their efforts with the naval strike at Okinawa. Since the first of the Okinawa operations was scheduled for 23rd March, only a little more than two weeks were available in which to hit the four big targets—Tokyo, Nagoya, Osaka and Kobe. It took extraordinary courage to risk everything on a new type of attack directly opposed to the traditional doctrine of high-altitude daylight precision bombing for which the B-29s had been expressly designed and which had been so profitable in Europe. Probably no mission, except the first

Another in-flight view of 42-93844.

Left: "Joltin' Josie, The Pacific Pioneer"; *this Superfortress of the 873rd Bomb. Sqdn., 498th Bomb. Grp., 20th Air Force was the first to land on Saipan and flew on the first Tokyo raid. It was lost with its entire crew on 1st April 1945; an explosion and fire occured shortly after take-off and the machine crashed in the sea.*
(Photo: via R. W. Harrison)

Below: *B-29 44-69777,* "Danny-Mite" *of the 874th Bomb. Sqdn., 498th Bomb.Grp., over the target area.* "Danny-Mite's" *luck ran out on 24th May 1945; she was last seen trying to reach the coast after losing two engines over the target.*
(Photo: via R. W. Harrison)

historic ones against Yawata and Tokyo, was "sweated out" with more anxiety than the 9th March strike on Tokyo.

On the afternoon of 10th March, when one by one the B-29s returned to the Marianas, the verdict became known. Pilots told how Tokyo "caught fire like a forest of pine trees". A few hours later came the photographic evidence. Sixteen and a half square miles of Tokyo had gone up in smoke. Eighty-five per cent. of the target area was destroyed. And this included 16 targets which were numbered for pin-point attacks. Out of 302 aircraft over the target, 14 were lost—the largest loss suffered on any of the five missions.

Less than 36 hours later the B-29s were off again, to Nagoya. During this strike the crews looked down on what "looked like a gigantic bowling centre with all alleys lighted up; each flight had left an alley of flames." But the scattered fires never joined to create a general conflagration and final results were not too good. A total of 1·56 square miles was destroyed. Nagoya was unfinished business.

Osaka and Kobe were next on the timetable. On 13th March more than 300 B-29s destroyed 8·1 square miles of Osaka, and on 17th March, 2·4 square miles of Kobe, including 11,000,000 square feet of dock area. Fifth and last attack in the series was made on the return trip to Nagoya when again more than 300 B-29s dropped some 2,000 tons on the city. Over compensating for the scattered bombing on the previous attack, the bombs were dropped in too small an area, and only ·65 square miles of the city were destroyed.

In five missions more than 29 square miles of Japan's chief industrial centres were burned out beneath a rain of bombs that totalled 10,100 tons. By comparision, on the *Luftwaffe*'s greatest fire raid on London, only 200 tons were dropped. And on the 8th Air Force's record strike on Berlin (3rd February 1945) over 1,000 heavy bombers made a 1,000 mile round trip to drop 2,250 tons. During the 10-day blitz against Japan, nearly this same tonnage was carried on each mission by only 300 B-29s, and the round trip exceeded 3,200 miles.

Losses to flak and fighters were less than 1·3 per cent. of aircraft over the target, and they were soon to drop even lower. Greatest source of alarm to the crews were the fierce thermals that rose from the blazing targets. However, no losses were attributable to this cause.

More and more B-29s were put on the job. Tail guns were reinstalled for minimum protection; fighter escort was available, if needed. In May and June forces of 400 planes and more were launched against the big targets. By 15th June they were so completely destroyed that the B-29s started a new campaign against more than 60 of the smaller industrial cities. Losses of aircraft continued to dive. In June the average B-29 loss rate per mission was ·08 per cent. In July, it was ·03 per cent., and by August it was ·02 per cent. In the Marianas a low altitude incendiary attack on Japan was considered to be about the safest pastime a man could enjoy.

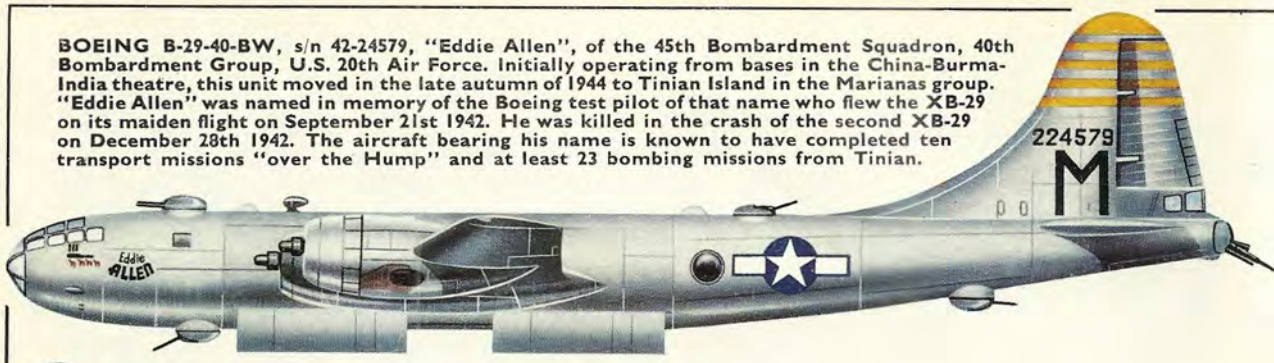
THE 20th's ROUGHEST MISSION

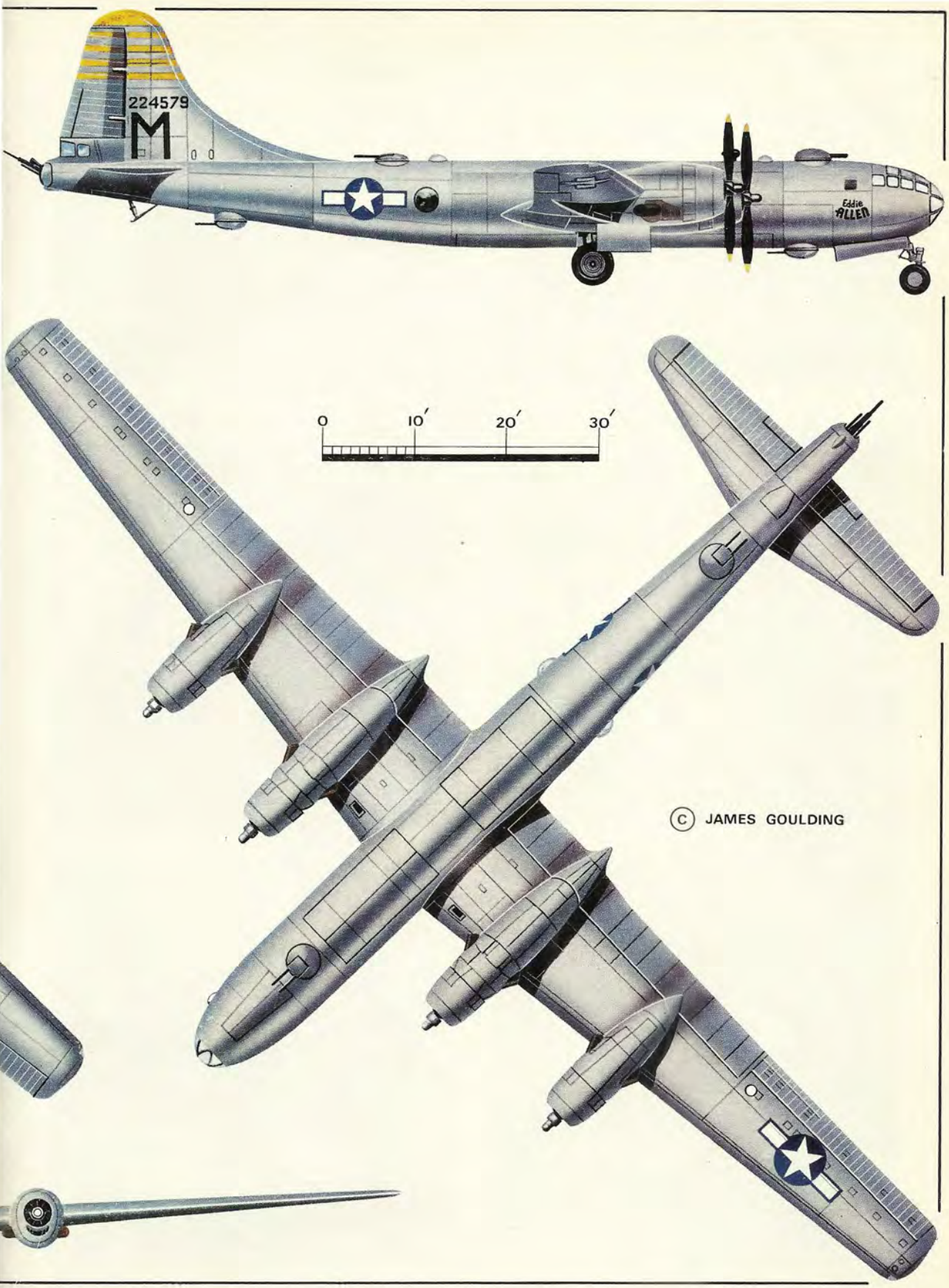
Both the Pacific and the European air wars had one fierce, furious mission that its survivors will never

(*Continued on page 11*)

Extremely rare photograph of a dummy Superfortress built by the Japanese. The mock-up was used to decoy attacking aircraft into using their ordnance in attempts to destroy this "crash-landed ship" before it could be examined by Japanese Intelligence.
(Photo: H. G. Anderson Collection)

BOEING B-29-40-BW, s/n 42-24579, "Eddie Allen", of the 45th Bombardment Squadron, 40th Bombardment Group, U.S. 20th Air Force. Initially operating from bases in the China-Burma-India theatre, this unit moved in the late autumn of 1944 to Tinian Island in the Marianas group. "Eddie Allen" was named in memory of the Boeing test pilot of that name who flew the XB-29 on its maiden flight on September 21st 1942. He was killed in the crash of the second XB-29 on December 28th 1942. The aircraft bearing his name is known to have completed ten transport missions "over the Hump" and at least 23 bombing missions from Tinian.

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Below and below right: *Examples of XXI Bomber Command B-29 "nose-art". As with their elder brothers, the B-17's of the 8th A.F. in Europe, the Superfortresses displayed a wide variety of emblems, the majority consisting of remarkably seductive females. Some, however, sported patriotic or regional slogans, gambling references or cartoon characters.*
(Photos: R. W. Harrison and J. W. Caler Collection)

forget. It stands out above the others because losses on both sides were heavy and the combat was bitter. In Europe it was the Regensburg-Schweinfurt attack on 17th August 1943 when 60 bombers were lost. In the Pacific it was Mission 183 to Tokyo's urban area on the night of 25th—26th May, 1945.

Of all the 20th Air Force missions, this was the most costly, but it also was the most profitable. Of 498 airplanes airborn, 464 bombed the primary target. Twenty-six were lost to enemy action, 5·6 per cent. of the attacking force. Of the 5,586 crew members, 254 were casualties. On the credit side, 18·9 square miles of Tokyo were wiped out—the record for a single incendiary attack. Flak damaged 100 of the B-29s, or 21·3 per cent. The Japanese put on a spectacular display of searchlights, rockets, "ball of fire" and fighter attacks. Some 94 attacks were made by intercepter aircraft, 17 of these were shot down and four damaged.

From each Wing, there had been 12 pathfinder planes, flown by specially trained crews; these carried 500 lb. incendiary bombs designed to penetrate the most fire-resistant buildings and to start large-scale fires that would help identify the target areas for the following aircraft. Air-sea rescue submarines and surface ships (destroyers or destroyer escorts) remained at their indicated stations throughout the 14 hour mission. "Dumbos" (PBYs and B-17s) and four B-29 "Super Dumbos" stood by for survivors of ditched aircraft. They moved in with the strike aircraft to pick up survivors close to Japan. Crash boats stood by during the take-off and landing times at the Mariana bases. Bad weather at Iwo Jima, the traditional short-stop for damaged aircraft, prevented its extensive use; only one plane made it to Iwo.

Japan's ability to continue the war finally collapsed amid the ashes and rubble of her burned-out cities. Her industry, blockaded and bombed into a shambles, finally could no longer support a large modern war machine. This situation was caused by the B-29, which, in the final phase of the war, was the decisive factor. But one great test remained.

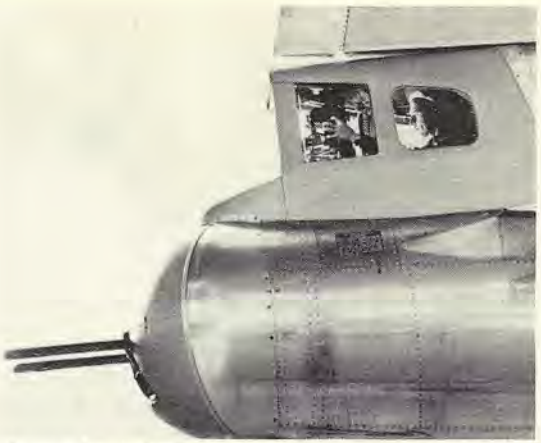
THE ATOMIC BOMB

The Atomic Age became a reality with a flash of fire and a mushroom cloud on 6th August 1945, shortly after the B-29 *Enola Gay* (44-86292) dropped the atomic bomb, "Little Boy" from an altitude of 31,600 feet. The bomb detonated at 800 feet above the city of Hiroshima, totally destroying 4·7 square miles of the city and killing more than 70,000 people.

This, then, was the climax of the war. In preparation for this mission, a special B-29 unit was organised under the command of Col. Paul W. Tibbets, Jr. The 509th Composite Group of the 315th Bombardment Wing was a "special" outfit from the beginning. Of the 2,000 men interviewed for duty, a third were rejected. Usual training for pilots and bombardiers was 20 practice runs and 5 radar runs; however, crews of the 509th made as many as 1,000 practice bomb runs and 60 radar runs. Using the Norden bombsight, crews of this group could hit a 500 ft. circle from 30,000 ft. Because of training and extra maintenance precautions, the 509th did not lose a man or an aircraft in training or overseas operations.

Three days after *Enola Gay* ushered in the Atomic Age, a second bomb dropped from *Bockscar* made certain it was going to stay. A report from Major Charles W. Sweeney, pilot of *Bockscar*, sheds some light on the use of these first atomic bombs; "The navigator made landfall perfectly. We passed over the primary target but for some reason it was obscured by smoke. There was no flak. We took another run, almost from the IP. Again smoke hid the target. "Look harder", I said to the bombardier, but it was no use. Then I asked Commander Frederick Ashworth (Naval adviser to the project) to come up for a little conference. We took a third run with no success. I had another conference with the commander. We had now been 50 minutes over the target and might have to drop our bomb in the ocean. Our gas was getting low. We decided to head to Nagasaki, the secondary target. There we made 90 per cent. of our run by radar. Only for the last few seconds was the target clear."
World War II was all but over.

The cockpit and bombardier's position in a Superfortress.



Tail turret detail of a Superfortress.

THE KOREAN WAR

Not much has been said about the role of the B-29 in the Korean War, and the most oft-repeated comment seems to be to the effect that "the MiGs shot them out of the sky". In fact, this appears to be very far from the truth. A report prepared by F.E.A.F. Bomber Command showed that during the Korean conflict only 16 Superfortresses were lost to enemy fighters, four to anti-aircraft batteries, and 14 to operational losses from other causes, giving a total of just 34 combat losses. On the other hand, B-29 gunners shot down 33 Communist fighters (16 of these were MiG 15s), probably destroyed another 17 (all MiGs) and damaged 11 (all MiGs). During the 37 months of the Korean War the B-29s saw action on all but 26 days. They flew a total of 21,000 individual sorties, dropping 167,100 tons of bombs; and losses were less than 1 per 1,000 sorties.

The B-29 went into combat almost from the outset of the war. On 25th June 1950, when the North Korean armies crossed the 38th Parallel, it was obvious that any counter-attack would have to rely heavily on the air weapons developed during the World War so recently concluded. The 19th Bombardment Group, based on Guam, was immediately redeployed to Okinawa; and on 7th July Maj.Gen. Emmett O'Donnell set up the provisional Bomber Command for the Far East Air Forces in Japan. This tactical headquarters took command of the 19th Group on 13th July, and of Strategic Air Command's 22nd and 92nd Groups which delivered attacks on North Korean targets that same day. It had taken but eight days for the 22nd Group at March A.F.B. in California and the 92nd at Fairchild A.F.B. in Washington to move to the battle zone and deliver their first raid on the key marshalling yards at Won-San.

Two additional S.A.C. B-29 Groups were added in July, the 98th from Fairchild A.F.B. and the 307th from MacDill A.F.B., Florida. The 31st Strategic Reconnaissance Group made up the team. The 92nd and 98th B.G's, with the 31st S.R.G., operated from Japan while the 19th, 22nd and 307th were based on Okinawa. First sorties saw the Superfortresses pitted against tactical targets; tank concentrations, troop bivouacs, truck columns, arsenals and supply dumps. There was little flak or air opposition. In August, the B-29s were unleashed once more on strategic targets. Forty-seven aircraft hit the Cho-Sen Nitrogen Explosives Plant at Konan, and 39 attacked the Bogun Chemical Plant. Other attacks were carried out on the Pyongyang arsenal and marshalling yards and other vital targets in North Korea.

The B-29's were called upon to drop flares for 5th Air Force B-26's executing night intruder missions. They experimented with the Razon bomb developed during W.W.II. Faulty bombs hampered early experiments but before long hits were being made in a 225-foot radius. Tarzon bombs of 12,000 lbs. were also used with a circular error average of 273 feet. B-29's used the Tarzon bombs to good effect, destroying the rail bridge at Oesichondong.

During the remainder of August and September the Superfortresses were used against 18 strategic targets in North Korea. By 25th September all 18 had been destroyed; and following the amphibious attack at Inchon by United Nations forces the Korean War appeared to be over and the North Korean armies defeated. By 24th October the Superfortesses had run out of targets; the 22nd and 92nd Groups packed up and went home.

A few days later, the War was on again with a vengeance, following the invasion by Chinese Communist forces. Daylight bombing flights, which had been largely unopposed, now encountered flak and increasing air opposition. Lavochkin and Yak 9P fighters were encountered, and later the MiG 15. On 25th February four B-29's on a raid to Sunchon were attacked by eight MiG 15's. Four days later a Superfortress formation, left minutes earlier by the escort of F-80's was attacked by nine MiGs in a running battle lasting 23 minutes. On 12th April, 48 Superfortresses from the 19th, 98th and 307th Wings raided the railroad bridge linking Korea with Antung, Manchuria. Between six and seven dozen MiGs attacked the formation, shooting down three B-29's and damaging seven, for the loss of nine fighters confirmed, six probables and four damaged.

SHORAN (Short Range Navigation) bombing of Northern targets was developed, and B-29's were equipped and their crews trained for this night technique. The 98th Wing was the first so equipped, followed by the 19th and 307th. By November 1951, when night operations became standard, enough aircraft and crews were available to make the system effective.

During the Panmunjon truce talks, the MiGs became more aggressive and moved further south against the B-29's. During the summer of 1951 thirteen B-29's were damaged by enemy aircraft and

radar-directed flak, which latter was effective even above 20,000 feet. On 14th August 68 Superfortresses raided Pyongyang and on 25th August 35 hit the docks and marshalling yards at Rashin in a very successful raid. More than 7,000 feet of rail, an 18-track storage area and other vital railroad installations were destroyed in the rail centre only 17 miles from the Manchurian border.

During October 1951 enemy air activity intensified; as many as 200 jet fighters would attack the B-29s during their daylight raids. Casualties were high; 55 crewmen were killed or missing and twelve were wounded as five B-29's were shot down and eight received major damage in engagements with between 50 and 70 cannon-armed MiGs defending Taechon and Namsi airfields. During this period B-29's accounted for 11 MiGs and four probables. At this time daylight operations were abandoned in favour of night attacks.

In the spring of 1952 B-29's were used to continue attacks on bridges, dropping their loads from 5,000—8,000 feet on bridges eight feet wide. Despite the difficult conditions 143 hits were confirmed, and during the month of May alone 66 spans were dropped from ten bridges. Airfield neutralisation went on and over 400 sorties were carried out against Communist airfields south of the Yalu River. During the summer and autumn of 1952 targets varied and raids were made against bridges, supply centres, hydro-electric plants, and factories. By late spring of 1953 the emphasis was again on airfields and bridges. Tentative truce terms provided for a 12-hour free period between the signing of an agreement and the time it became effective; this could have allowed the Communists to move in large numbers of aircraft to the ten major North Korean airfields. Bomber Command's objective was to keep these fields unserviceable and to this end the B-29's raided them night after night.

On the very last day of the War, B-29's raided Saamcham and Taechon airfields; and on 27th July 1953 an RB-29 of the 91st Strategic Reconnaissance Squadron flew out of North Korea at 1503 hours, just seven hours before the cease-fire deadline, to report that all the airfields assigned as targets to Bomber Command were unserviceable.

Thus the Superfortress ended its combat career; but by no means its period of service with the Air Force.

MAJOR B-29 VERSIONS AND EVENTS

Following World War II, the B-29 continued its superlative performance. In November 1945, just two months after the war's end, the "Pacusan Dreamboat" flew from Guam to Washington, D.C. in 35 hours, establishing a world non-stop record of 8,198 miles. A few days later the same airplane flew from Burbank, California to New York in 5 hours and 27 minutes to set a new speed mark. In October 1946, another non-stop record was established, this time from Honolulu to Cairo, some 9,500 miles in 39 hours 36 minutes. The B-29 led the way into the aerial refuelling era, first as the KB-29M which used the British hose-and-grapnel system, and later as the KB-29P which used the Boeing-developed "flying boom". Four KB-29Ms provided the aerial refuelling for the B-50 "*Lucky Lady II*" which made the first round-the-world non-stop flight in 1949. In addition to Boeing's own development of the hose-type refuelling system, several B-29s were modified and tested by Flight Refuelling Ltd. in England, including the YKB-29T (45-21734) which was the first triple-point tanker for Tactical Air Command. In May 1948, Boeing suggested an alternative refuelling method, chiefly to increase refuelling rates, in which an aerodynamically-controlled telescopic boom was lowered from the tanker to a receiver. Two RB-29Js were converted to YKB-29J tankers and in May 1949 the U.S.A.F.

Gen. James Doolittle's stripped B-29B, "The Challenger", *armed with tail guns only.*

B-29B record-breaker "Pacusan Dreamboat".

B-29's of the 39th Bomb. Grp., 314th Bomb. Wing roll to their take-off from Guam.

ordered 40 B-29 conversions with this equipment, designated KB-29P. A total of 116 were eventually modified, the first being delivered to S.A.C. in March 1950.

Numerous other B-29 versions appeared. The F-13 and later the F-13A appeared in 1947 as the re-designated RB-29J with new equipment. Unmodified F-13A's became RB-29A's. The "Super Dumbo" of W.W.II was developed into the SB-29 which carried an A-3 lifeboat under the fuselage. Sixteen SB-29's saw service. Others were modified for weather reconnaissance as WB-29's.

Other configurations included the B-29B, which except for the tail gunner's position, had its turrets and sighting blisters removed and contained extra radio and radar equipment; the EB-29B which was used as a television relay station; the XB-29E fire control test model; and six B-29F's, which were winterized versions for Alaskan operations. The XB-29G (44-84043) served as a flying test bed for the J35, J47 or J73 engines mounted in the bomb bay; the XB-29H was used for special armament tests; the YB-29J was a service test model for improved engines; the TB-29 was a trainer and the QB-29 was a target drone. There was also a stripped cargo B-29, the CB-29K.

Early high speed and experimental fighter research was aided, as the B-29 became a convenient "mother". It carried the Bell X-1 series and the McDonnell XF-85 parasite fighter, and operated as the P2B-1 it carried the Navy's Douglas D-558-II. The R.A.F. operated the B-29 as the Washington.

The last U.S.A.F. B-29 was phased out of operation at 2010 hours, 21st June, 1960, when Major Clarence C. Rarick of the 6023rd Radar Evaluation Squadron landed B-29-15MO (42-65234) at Naha Air Base, Okinawa following a routine radar evaluation mission. The Warbird of the Pacific was finally at rest.

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UNITS EQUIPPED WITH B-29 AIRCRAFT

Abbreviations: B.S./B.G. = Bombardment Squadron/Group. P.S. = Photo Squadron. S.R.S./S.R.G. = Strategic Reconnaissance Squadron/Group. Z.I. = Zone of the Interior i.e. United States. C.B.I. = China, Burma, India Theatre. F.E. = Far East. P.T.O. = Pacific Theatre of Operations. Footnote codes refer to Group etc. tail etc. symbols; see footnote.

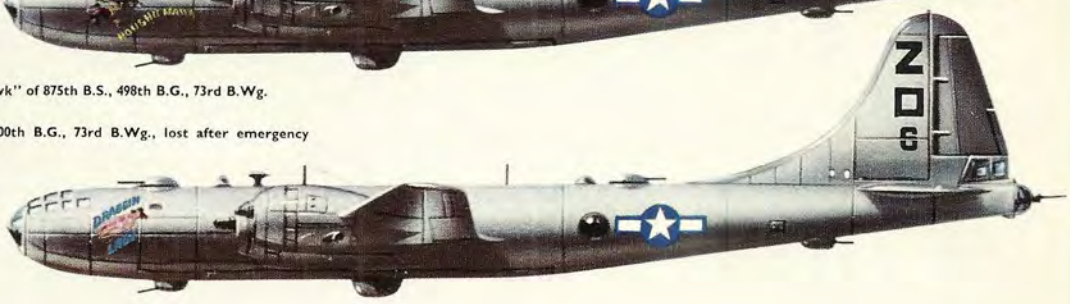
GROUP	SQUADRONS	THEATRE
2nd B.G.	20th, 49th, 96th, 429th B.S.	Z.I.
5th R.G.	23rd, 31st, 72nd R.S.	Z.I.
6th B.G.	24th B.S.	
	39th B.S. *	20th A.F.
	40th B.S.	
7th B.G.	9th, 436th, 492nd B.S.	Z.I.
9th B.G.	1st B.S.	
	5th B.S.	20th A.F.
	99th B.S.	
11th B.G.	26th, 42nd, 98th B.S.	P.T.O.
11th P.G.	1st, 3rd, 19th P.G.	—
16th B.G.	15th B.S.	
	16th B.S.	
	17th B.S. ***	20th A.F.
	21st B.S.	
19th B.G.	28th B.S.	
	30th B.S. ****	20th A.F.
	93rd B.S.	
22nd B.G.	2nd, 19th, 33rd, 408th B.S.	20th A.F.
28th B.G. (28th S.R.G.)	77th, 717th, 718th B.S.	Z.I.—Alaska
29th B.G.	6th B.S.	
	43rd B.S. *****	20th A.F.
	52nd B.S.	
	261st B.S.	
39th G.B.	60th B.S.	
	61st B.S. †	20th A.F.
	62nd B.S.	
	402nd B.S.	
40th B.G.	25th B.S. (Red)	
	44th B.S. (Blue)	
	454th B.S. (Yellow) ††	20th A.F.
	395th B.S. (Black)	
43rd B.G.	63rd, 64th, 65th B.S.	Z.I.
44th B.G.	66th, 67th, 68th, 506th B.S.	Z.I.
68th S.R.G.	24th, 51st, 52nd B.S.	Z.I.
90th B.G.	319th, 320th, 321st B.S.	Z.I.
91st S.R.G.	7th Geodetic; 91st, 322nd, 324th B.S.	Z.I.
92nd B.G.	325th, 326th, 327th B.S.	Z.I. & Korea
93rd B.G.	328th, 329th, 330th, 409th B.S.	Z.I.
97th B.G.	341st, 342nd B.S.	Z.I.
98th B.G.	343rd, 344th, 345th B.S.	Z.I. & Korea
100th B.G.	349th, 350th, 351st, 418th B.S.	Z.I.
106th B.G.	32nd, 352nd, 353rd B.S.	Z.I.
306th B.G.	367th, 368th, 369th, B.S.	Z.I.

A classic view of B-29's of the 500th Grp., 73rd Wing during a fire raid on Japan. Flying from their huge bases in the Marianas, the B-29 Groups literally burned the heart out of the Japanese Empire in a matter of months.

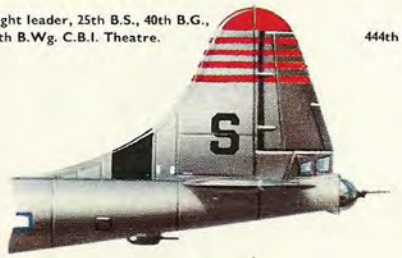
B-29 42-24663 "Lady Eve II" of 875th B.S., 498th B.G., 73rd B.Wg. After renaming as "Willie Mae" this a/c took part in last B-29 mission of W.W.II on 14th August 1945.

B-29 42-63444 "Honshu Hawk" of 875th B.S., 498th B.G., 73rd B.Wg.

B-29 "Draggin Lady" of 500th B.G., 73rd B.Wg., lost after emergency ditching on 23rd Feb. 1945.



Flight leader, 25th B.S., 40th B.G., 58th B.Wg. C.B.I. Theatre.



444th B.G., 58th B.Wg. C.B.I. Theatre.

768th B.S., 462nd B.G., 58th B.Wg. After Oct. 1944, C.B.I. Theatre.

"Postville Express" of 794th B.S., 468th B.G., 58th B.Wg.

25th B.S., 40th B.G., 58th B.Wg. immediately on arrival Tinian.

Flight leader, 499th B.G., 73rd B.Wg. April 1945.

501st B.G., 315th B.Wg., Guam, April-May 1945.

Flight leader, 19th B.G., 314th B.Wg.

9th B.G., 313th B.Wg., April 1945.

Left, 505th B.G., 313th B.Wg., April 1945. Tail tips painted in squadron colours, colour sequence not known. Right, early 313th B.Wg. marking style, Group unknown.

GROUP	SQUADRONS	THEATRE
307th B.G.	370th, 371st, 372nd B.S.	F.E. & Korea
308th B.G.	373rd, 374th, 375th B.S.	Z.I.
308th R.G. (Weather)	53rd, 59th, 374th, 375th R.S.	Z.I.
330th B.G.	457th B.S. 458th B.S. ††† 459th B.S. 460th B.S.	20th A.F.
331st B.G.	355th B.S. 356th B.S. †††† 357th B.S.	20th A.F.
333rd B.G.	435th, 460th, 507th B.S.	8th A.F.(P.T.O.)
346th B.G.	461st, 462nd, 463rd B.S.	8th A.F.(P.T.O.)
376th B.G.	512th, 513th, 514th B.S.	Z.I.
380th B.G.	328th, 329th, 330th, 331st B.S.	—
382nd B.G.	420th, 464th, 872nd B.S.	8th A.F.(P.T.O.)
383rd B.G.	876th, 880th, 884th B.S.	8th A.F.(P.T.O.)
391st S.R.G.	103rd, 129th, 130th S.R.S.	Z.I.
394th B.G.	102nd, 114th, 135th B.S.	Z.I.
444th B.G.	344th B.S. 409th B.S. 676th B.S. 677th B.S. ††††† 678th B.S. 679th B.S. 825th B.S.	20th A.F.
448th B.G.	712th, 713th, 714th, 715th B.S.	Z.I.
449th B.G.	716th, 717th, 718th, 719th B.S.	Z.I.
450th B.G.	720th, 721st, 722nd, 723rd B.S.	Z.I.
458th B.G.	752nd, 753rd, 754th, 755th B.S.	Z.I.
462nd B.G.	768th B.S. (1) 769th B.S. (2) 770th B.S. (3) ‡ 771st B.S.	20th A.F.
466th B.G.	784th, 785th, 786th, 787th B.S.	Z.I.
468th B.G.	792nd B.S. (White) 793rd B.S. (Blue) 794th B.S. (Red) ‡‡ 795th B.S. (Yellow)	20th A.F.
472nd B.G.	808th, 809th, 810th, 811th B.S.	Z.I.
485th B.G.	506th, 828th, 829th, 830th, 831st B.S.	Z.I.
489th B.G.	844th, 845th, 846th, 847th B.S.	Z.I.
497th B.G.	869th B.S. 870th B.S. 871st B.S. ‡‡‡ 872nd B.S.	20th A.F.
498th B.G.	873rd B.S. 874th B.S. 875th B.S. †††† 876th B.S.	20th A.F.
499th B.G.	877th B.S. 878th B.S. 879th B.S. ††††† 880th B.S.	20th A.F.

GROUP	SQUADRONS	THEATRE
500th B.G.	881st B.S. 882nd B.S. 883rd B.S. § 884th B.S.	20th A.F.
501st B.G.	21st B.S. 41st B.S. §§ 485th B.S.	20th A.F.
502nd B.G.	402nd B.S. 411th B.S. §§§ 430th B.S.	20th A.F.
504th B.G.	393rd B.S. 398th B.S. 421st B.S. §§§§ 507th B.S. 680th B.S.	20th A.F.
505th B.G.	482nd B.S. 483rd B.S. 484th B.S. §§§§§ 485th B.S.	20th A.F.
509th Composite Group. (393rd B.S.)	The "atomic sqdn." initially carried a black R in an outline circle, and individual a/c numbers, to suggest for security purposes that it was another sqdn. of the 6th B.G. Following the atomic missions, 6th and 9th Aug. 1945, a black, forward-facing arrowhead in a black outline circle was adopted.	

(In some cases where sqdns. were re-assigned to other Groups after de-activation of their original Group, the squadrons have been listed under the original Group only).

KEY TO UNIT MARKINGS

* = Black R in outline circle.
** = Black X in outline circle.
*** = Black B in outline diamond.
**** = White M on black square.
***** = White O on black square.
† = White P on black square.
†† = Five horizontal stripes on tail in colours indicated.
††† = White K on black square.
†††† = Black L in outline diamond.
††††† = C.B.I., white individual a/c no. on solid black diamond. Tinian, black N in outline triangle.
‡ = C.B.I., coloured rudder, sqdn. colour sequence unknown. Oct. 1944, 771st B.S. deactivated, remainder carried red rudder with numbers shown in parentheses distinguishing sqdns. and marked below serials.
‡‡ = C.B.I., two diagonal rudder stripes in colours indicated. After 795th B.S. deactivated Oct. 1944, 794th used yellow stripes, remainder unchanged.
‡‡‡ = Black A above outline square, later large black A only.
‡‡‡‡ = Black T above outline square, later large black T only.
‡‡‡‡‡ = Black V above outline square, later large black V only.
§ = Black Z above outline square, later large black Z only.
§§ = Black Y in outline diamond.
§§§ = Black H in outline diamond.
§§§§ = Black E in outline circle.
§§§§§ = Black W in outline circle.

The traditions of the Marianas carried to another country, another war. These nose emblems were carried by Superfortresses of the U.S. Far East Air Forces in Korea. (Photos: H. G. Anderson Collection)

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